

NIOSH recommends that health care facilities use safer medical devices to protect workers from needlestick and other sharps injuries. Since the passage of the Needlestick Safety and Prevention Act in 2000 and the subsequent revision of the OSHA Bloodborne Pathogen Standard, all health care facilities are required to use safer medical devices.



SAFER MEDICAL DEVICE IMPLEMENTATION IN HEALTH CARE FACILITIES

SHARING LESSONS LEARNED

NIOSH has asked a small number of health care facilities to share their experiences on how they implemented safer medical devices in their settings. These facilities have agreed to describe how each step was accomplished, and also to discuss the barriers they encountered and how they were resolved, and most importantly, lessons learned.



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Selecting and Evaluating Safer Medical Devices

Background

Our health-care system is a nonprofit, consumer-governed system that coordinates care and coverage. It provides care to nearly 600,000 people in the Western United States. Our system includes a nationally recognized research center, charitable community foundation, medical centers, specialty centers, and hospitals. In addition, we provide home health care services to our members and skilled nursing services through our long-term care facility. We own and operate our own laboratory. We employ nearly 10,000 staff including an associated 1,050 physician group practice. There are approximately 4,500 clinical staff who use sharp devices.

Our health system has implemented five safer devices over the last eighteen months. These included a shielded IV catheter, shielded phlebotomy needle, protected disposable scalpel, safety lancet, shielded needle for disposable syringes and a self-sheathing syringe. We had previously implemented a needle-free IV system and shielded butterfly needles. The following five reports will describe our selection, evaluation, and implementation process for safer IV catheters.

Phase 1: Form a Sharps Injury Prevention Team

1. Description of the process used to identify sharps injury prevention team members

Our sharp injury prevention team, entitled *Engineering Controls Evaluation Committee*, was developed as an outcome of a process improvement project to assure that the engineering controls and work practices section of our Bloodborne Pathogen Exposure Control Plan met OSHA and state standards. The Engineering Controls Evaluation Committee received sponsorship from our Delivery System Leadership Team and hospital administrators. The project team (Hospital and Assistant Hospital Administrators, Employee Health, Infection Control) developed criteria for member selection to represent major areas involved in using sharp devices.

Criteria for Member Selection:

- Clinical expertise (front-line staff who use sharps)
- Administrative Oversight responsibility (i.e. Materials Management, Infection Control, Employee Health, Risk Management, Administration [Home and Community Services, OR, Radiology, Pediatrics, Urgent Care, Hospital System Quality & Care Management])
- System-wide representation
 - Geographic location
 - Inpatient departments
 - Ambulatory care
 - Specialty Areas

The project manager of the process improvement team contacted the managers of the selected clinical areas to identify staff with clinical expertise and interest in safer medical devices for membership on the committee. The project Hospital Administrator and Assistant Administrator served as champions for the project and for the Engineering Controls Evaluation Committee to senior leadership and the management team.

Phase 1: Form a Sharps Injury Prevention Team

**2. Description of the Sharps Injury Prevention Team
(Engineering Controls Evaluation Team)**

The Engineering Controls Evaluation Committee is a statewide interdisciplinary committee. It consists of both clinical and administrative staff. The initial committee included representatives from inpatient, ambulatory care, specialty areas, and ancillary and administrative areas. The following department and staff were representatives on the initial committee:

Department	Position/Title	Management/ Administrative/or Direct Patient Care
Emergency	2 RN's	Direct Patient Care
Orthopedic Unit	RN	Direct Patient Care
Home & Community SVCS	Associate Administrator	Administrator
Medical/Surgical Unit	RN	Direct Patient Care
Family Practice – South	LPN	Direct Patient Care
Operating Room	Supervisor	Management
Employee Health	Employee Health Coordinator	Administrative
Material Contracts & Standards	Contract Administrator	Administrative
Consultative & Acute/Post-Acute Care Services	Assistant Hospital Administrator	Administrative
Infection Control – East	Practice Team Manager	Management
Infection Control – West	Infection Control Practitioner	Administrative
Risk Management	Manager, Risk Management	Administrative
Laboratory	Quality Assurance/ Safety/ Education Coordinator	Management
Long Term Care	Infection	Administrative

Phase 1: Form a Sharps Injury Prevention Team

	Control Practitioner	
Consultative & Acute/Post-Acute Care Services	Project Manager	Administrative
Radiology	Manager, Radiology Services	Management
Ad Hoc Members		
Home & Community Services Home Parenteral Therapy	RN	Direct Patient Care
Family Birthplace-Hospital	Clinical Nurse Specialist	Direct Patient Care
Infection Control-South	Infection Control Practitioner	Administrative
Pediatrics	Manager/Clinical Nurse Specialist	Management
Medical/Surgical/Orthopedic	Clinical Nurse Specialist	Management
Endoscopy	RN	Direct Patient Care
Hospital System Quality & Care Management	Quality Consultant	Administrative-Advisory
Urgent Care-Central	Manager, Urgent Care	Management

Ad Hoc members were used as consultants and would attend or provide information to the Engineering Controls Evaluation Committee as their expertise was required. These members received all committee agendas and minutes of the meetings.

3. Designated Team Coordinator

The Employee Health Director, who is a registered nurse with a Masters of Nursing in Occupational Health, is the chairperson of the Engineering Controls Evaluation Committee. She has worked for this health-care system for 23 years in several different capacities: staff nurse family practice and pediatrics, hospital administrator on duty, flu campaign coordinator, health promotion specialist, nursing director ambulatory care, and infection control practitioner. The Employee Health Director drew upon her understanding of our system and experience with implementing complex system-wide programs in the past.

4. Recommendations regarding the composition of the Engineering Controls Evaluation Committee

The Engineering Controls Evaluation Committee should include the following:

- Staff with clinical expertise.
- Representation from key clinical users of the sharp device being evaluated including inpatient, ambulatory care, specialty services, home health, laboratory, pediatrics, operating room, long term care, radiology, and emergency.
- Representation from other key stakeholders including materials management, risk management, infection control, and employee health.
- Administrative representation to provide support for the work of the committee.
- Coordinator or chairperson who is able to lead a large interdisciplinary clinical and administrative committee and is respected by the committee members. The leader should be able to provide leadership, advice, content knowledge, and bring a high level of energy and commitment to the group.
- Administrative assistant and project manager for the management of documentation, organization of materials of the meetings, and communication of committee work.
- Medical staff representation.

5. Lessons learned during the process of identifying/developing a sharps injury prevention team

Our health-care system formed a new committee to serve as the *Engineering Controls Evaluation Committee* (sharps injury prevention team). Although, several members of the *Engineering Controls Evaluation Committee* were members of the Infection Control and Safety Committees, it was determined that the breadth and time commitment involved in the work of identifying, selecting, evaluating and implementing safer devices required a new committee. The lessons learned during the process of identifying/developing a sharps injury prevention team were:

- Establish a structure and process for the committee. This foundational work needs to be sustainable for years to come. This is especially important for a large, diverse delivery system and because technology for safer sharps is still emerging and less than perfect.
- Clinical and administrative staff were selected for committee membership, as clinical staff can provide expertise on how, when and where sharp devices would be used and provide valuable input into the development of criteria for evaluation of safety devices. Administrative staff can provide support to facilitate the planning, communication, implementation, reporting and paper management of the process, and assure support for budgetary implications.
- Medical staff representation/communication is important. As it is difficult for medical staff to attend two-hour meetings, a communication plan for medical staff awareness of the committee, process, and evaluation of devices should be developed and implemented in conjunction with the development of the committee.
- Managers were supportive of having their employees participate and chose enthusiastic staff for membership.
- Have enough members on the committee to have adequate representation, as not all members can attend every meeting.

Phase 1: Form a Sharps Injury Prevention Team

- Project manager and administrative assistant are needed to assist in the development and distribution of agendas and minutes, room scheduling, forms creation, report generation, development of workplan for the evaluation and implementation of a safer device, to coordinate and manage implementation of training, assist in development of a plan for inventory swap-out in each department and medical facility, and communicate program implementation system-wide. The project manager was instrumental in keeping the development of the committee on schedule (see attachment 1 – Project Manager Request for Personnel).
- A learning curve was required for the project manager to become oriented to the content material. This required additional Infection Control and Employee Health time to assist with this orientation.
- Obtaining administrative support for the project manager required more work and time than was anticipated.
- Clarification of project members roles and relationships took several meetings to establish. Members had to let go of control over certain aspects of the work, to optimize each person's time and result in a sustainable committee structure and process for our delivery system.
- Statewide integration required a lead representative be identified for all geographic areas. These people identified variations between systems and processes in different locations. Since attending in person was not always practical, these remote representatives often attended the pre-planning meetings by phone. Attending by telephone lost some effectiveness, but logistically it was the preferred method of attendance.
- Adhere to timeframe of meeting. Staff have patient care responsibilities and need to leave the meeting at the designated ending time.
- A comprehensive communications plan brought the project to the attention of staff via postings in newsletters across the system.
- Ensure room is large enough for the size of the committee.

Phase 1: Form a Sharps Injury Prevention Team

6. Things that we will do differently if we were to begin this process again

- Find key medical staff leader(s) in the organization and use their established processes for communicating about the committee and its work.
- Include broader material management representation on committee.
- Ensure resources are available for project manager before first committee meeting.
- Have designated experienced clerical support.
- Establish time commitment of members for the development of the committee. Limited time availability of some members due to other priorities made the process slower than the original timeline.
- More frequent communication to the administrative sponsor on milestones related to the formation of sharps injury prevention team.

7. Advice for starting a sharp injury prevention team

- Senior leadership management sponsorship is imperative before the team is developed. Finding a high-level management person to champion the work of the team is very beneficial. Our Hospital Administrator championed the need for safer medical devices to senior leadership. The administrator arranged for Infection Control and Employee Health to present the standard requirements and scope of work to senior leadership.
- Establish a core group to develop the committee's structure i.e., responsibilities and function, reporting structure, meeting frequency, and membership (see attachment 2- Committee Charter). The group should also review OSHA and state regulations regarding the Bloodborne Pathogen Standard, develop a gap analysis of the regulations and your institutions' policy, and develop a process cycle for evaluating engineering

Phase 1: Form a Sharps Injury Prevention Team

controls. Our core group consisted of Employee Health, Infection Control, an Assistant Hospital Administrator and a project manager. We found that our project overview document provided structure and boundaries for the establishment of our Engineering Controls Evaluation Committee.

- Select clinical members who use the device being evaluated. Other members were selected when additional devices were evaluated, depending on the expertise required.
- Have management select the initial team members. This demonstrated to staff management support for the work and ensured that staff attended the meetings and were enthusiastic, knowledgeable, and vocal team members.
- Be prepared and organized for the first meeting. At the first committee meeting:
 - Establish your team's meeting schedule; how often the committee will meet, length of meeting, specific day meeting will be held (e.g., 3rd Thursday of each month)
 - Publish meeting room schedule for members
 - Review the responsibilities and function of the committee (see attachment 1? - Committee Charter)
 - Establish meeting norms; i.e. staff are to find a replacement if they are not able to attend the meeting
 - Review and train the committee on the OSHA and state Bloodborne Pathogen Standards
 - Review and revise institution's Bloodborne Pathogen policy
 - Review and revise process cycle for evaluating engineering controls
- Send meeting materials to members prior to meeting (one week worked well).
- Provide binders for committee members to keep all materials in.
- Organize meeting materials and clearly communicate and document meeting findings/recommendations/action/follow-up required.
- Encourage staff members to actively participate in the meeting; seek their advice regarding how, when, where the device being

Phase 1: Form a Sharps Injury Prevention Team

evaluated is used and to provide their clinical expertise during the assessment and evaluation process.

- Staff recommended refreshments be available at the committee meetings since meetings, including travel time, were held during the lunch period.

8. Other relevant information about the process identifying/developing a sharps injury prevention team

- Meetings were scheduled on work time. We scheduled 2-hour meetings from 1 PM-3 PM allowing day and evening shift staff to attend. This was the best time for managers to arrange for staff to be away from their units.
- Meetings were scheduled once a month, which were needed for the volume of work to identify, select, and evaluate IV catheters and for planning the implementation process.
- Meetings were located in the region and facility where most of the clinical staff was located. This reduced the travel time and time away from the work area. Administrative staff were accustomed to traveling to a different location for meetings.

Materials

Attachment 1 – Project Manager Request for Personnel

Attachment 2 – Committee Charter

Staff Hours and Other Cost Items

Staff Hours:

Type of Staff	Hours Spent on Phase 1
Management	0
Administrative	68
Front-line	0
Total	68

Other, Non-labor Costs

Item
1. Copying

Phase 1: Form a Sharps Injury Prevention Team
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|--------------------------|
| 2. Binders |
| 3. Transparencies |

Phase 1: Form a Sharps Injury Prevention Team

Attachment 1 Request for Personnel Engineering Control Evaluation Project Manager

Position Job Class Title: Engineering Control Evaluation Project Manager

Reports to: Employee Health Director

Department Number:

Department Name: Employee Health

Position Number:

Position Start Date:

Work Schedule: Hours: Variable
Days: Variable (0.25 FTE)

Major Responsibilities:

1. Participate in planning and implementation of device pilot projects as assigned by chair of Engineering Controls Evaluation Committee (ECEC)
 - Assist with development of product evaluation forms for selected devices and review with ECEC
 - Meet with vendor to review pilot design
 - Coordinate training inservice schedule with managers of selected pilot sites
 - Communicate to manager's status of pilot implementation.
 - Develop materials to facilitate communication (posters, FAQ).
 - Problem-solve issues associated with pilot.
2. Organize and manage the introduction of new engineering controls that have successfully completed the pilot project phase
3. Identify departments, and departmental contact person, impacted by new device
4. Coordinate and manage scheduling and implementing educational programs (inservices) for impacted staff
5. Coordinate obtaining appropriate educational materials and product samples for training
6. Insure impacted written policies and procedures are updated
7. Coordinate with material management device inventory swap-out in each hospital department and at each outpatient clinic or area that is impacted by new device
8. Document and track device identification, evaluation, selection and implementation using detailed workplans
9. Communicate program implementation status organization-wide

Bona Fide Occupational Qualifications:

Education – BS/BA

Specialized Skills – Project management experience, MS Project and Office software proficiency, strong verbal and written communication skills, ability to work in a team.

Years & Type of Experience – Five years project management experience, preferably in health care.

Phase 1: Form a Sharps Injury Prevention Team

Payband –

New position__XX__ Replacement position_____

Phase 1: Form a Sharps Injury Prevention Team

Attachment 2 Sharps Injury Prevention Team Engineering Controls Evaluation Committee (ECEC)

CHARTER

Charter: To identify, select, evaluate and recommend changes or additions to engineering controls used by our health-care system. Engineering controls refer to technology (e.g. Sharps disposal containers, retractable needle systems) that minimize or eliminate employee exposure to bloodborne pathogens.

Responsibilities:

- Approves criteria, evaluation tools, and policies related to engineering controls evaluation process
- Identifies opportunities to improve engineering controls based on annual accidental parenteral exposure (APE) report and literature reports
- Oversees the evaluation and implementation of engineering controls
- Recommends changes or new engineering controls to our health-care system Infection Control Committee

Reports to: Our health-care system Infection Control Committee. ECEC Chair provides written status report, with attached meeting minutes.

Meeting Frequency: Quarterly or as necessary

Membership:

(include name of representative)

Employee Health-Chair

Administrator

Project Manager

Administrative Assistant

Infection Control West

Infection Control East

Laboratory

Long Term Care

Nursing Management: OR Supervisor

Nursing front line staff: medical/surgical unit, orthopedics, ambulatory care, emergency department, infusion services, endoscopy, family birthplace

Pediatrics

Radiology

Urgent Care

Community Health

Material Management

Risk Management: advisory role

Quality Education/Management: advisory role